

FIGURE 1

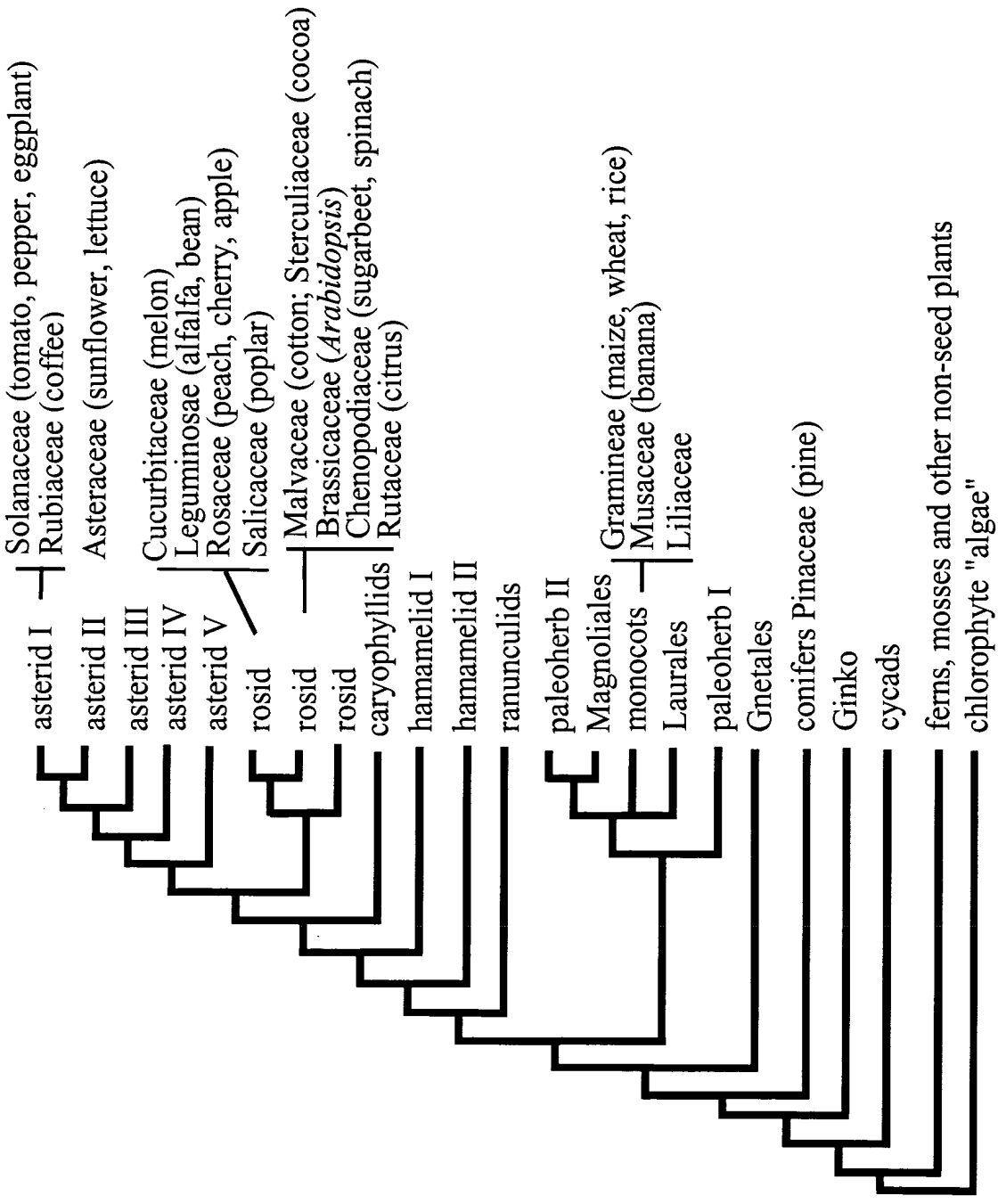


FIGURE 2

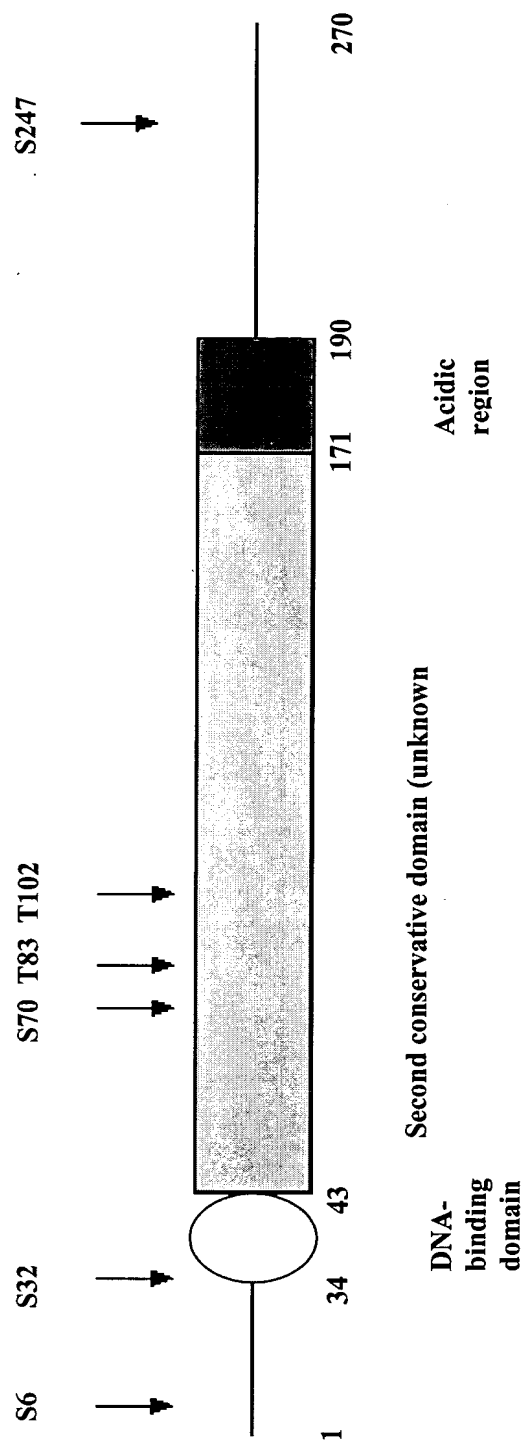


FIGURE 3

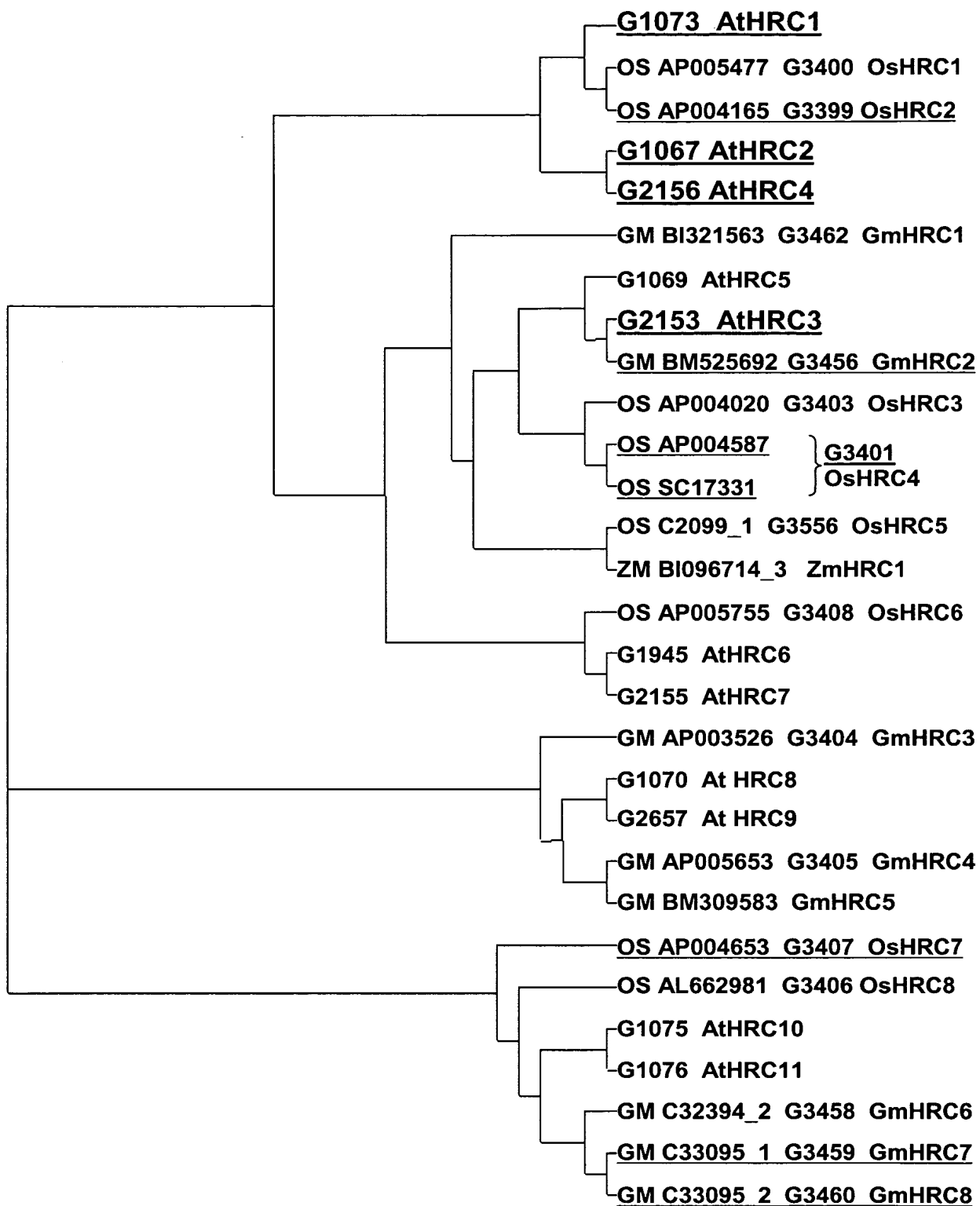


FIGURE 4



G1071	60	70	80	90	100
Pisum T06584	S Y Y I H R G L S G S G P P T F H G S P Q Q Q Q G L R H L P N Q N S P F G S G S T G F G S P S L H G				
A. majus SAP1	G P G S Y Y L H R G G V E A A G S G S G G F Q V P P G F R A L P N N G I I A Q P N V R A Q G G N G D				
G1072		M E Q P N N D G N N G S C Y R P Q L P N Q - - - - -			
AAK00433	M E T S D R I S P G G I G A E V P S A Y H M A P R P S D S - - - - -				
G1068	N P A A A P M R L S F D Q M A G K A P G G E Q Q H H H P G P M L Y A A P A G A A P P P Q G G N				
G1069	H L Q Q Q P P P G M L M S H H N S Y N R N P N A A A V L M G H N T S T S Q A M H Q R L P F G G				
G2153		M A N P W W T N Q S G L A G M V D H - - - - -			
G3456		M A N P W W T G Q V N L S G L E T T P P G S S Q - - L K K P D L H I			
G3401		M A N R W W T G S V G L E N S G H S - - - - -			
G3402					
G3403		M A N P W W V G N V A I G G V E S P V T S S A P S L H H R N S N N			
G2157		M G L P E Q P S G - - - - -			
G3536					
G1067		M E G G Y E Q G G G A S R Y F H N L F R P E I H H Q Q L Q P Q G G I N L I D Q H H H			
G2156		M D G G Y D Q S G G A S R Y F H N L F R P E L H H Q L Q - P Q P Q L H P L P Q P Q P			
G3400		M A G M D P T G G G G G V A A H Y L H M L R A Q Q H - - - Q P L S P A G D V K A			
G3399		M A G M D P G G G A G A G S S R Y F H H L L R P Q Q P S P L S P L S P T S H V K M			
G1073					
G2789		E V S - - - - R S H T P Q F L S S D - H Q H Y H H Q N A - - - - G R Q K R G R E - - - - -			
G596		Q V S - - - - R S L P P P F L S R D L H L H P H H Q F Q - - - - H Q Q Q Q Q Q Q N H G H D I			
G1070		G S Q - - - - S S L P P P F H A R D F Q L H L Q Q Q Q E F F L H H Q Q Q R N Q T D G D Q Q G			
G3405		I H G - - - - H H L P P P F N T R D F H H L Q Q Q H Q L H L K T E D D Q G G G T P G V F G -			
G3404		A A H G G G H H H H H F G A P P V A A F H H H P F H H G G G A H Y P A A F Q Q F Q E E Q Q L V A			
G1075					
G1076		M A G L D L G - T T S R Y V N N V D G G - G G G Q F T T D N H H E D D G - - - - -			
G3460		M A G L D L G - T A F R Y V N N H Q L H R - P D L H L H N S S S D D V T P - - - - -			
G3459		M A G L D L G - S A S R F V Q N - L H L - P D L H L Q N Y Q Q P R - - - - -			
G3458		M A G L D L G - S A S R F V Q N - L H R - P D L H L Q N F Q Q H Q D Q - - - - -			
G3406		M A G I D L G - S A S H F V H H R L E R - P D L E D D E N Q Q D D N N - - - - -			
G3407		M A G L D L G T A A T R Y V H Q L H H L H P D L Q L Q H S Y A K Q H E P - - - - -			
G1945		M A G L D L G - - - - T S Y L H H H Q S L H L R H D D G G A G - - - - -			
G2155					M K
G3408		M S F C E R D M N K E S M Y Q E R D D M A G I R F A T P P L P Q Q Q Q - - - - -			
BAE64709					
G3462					

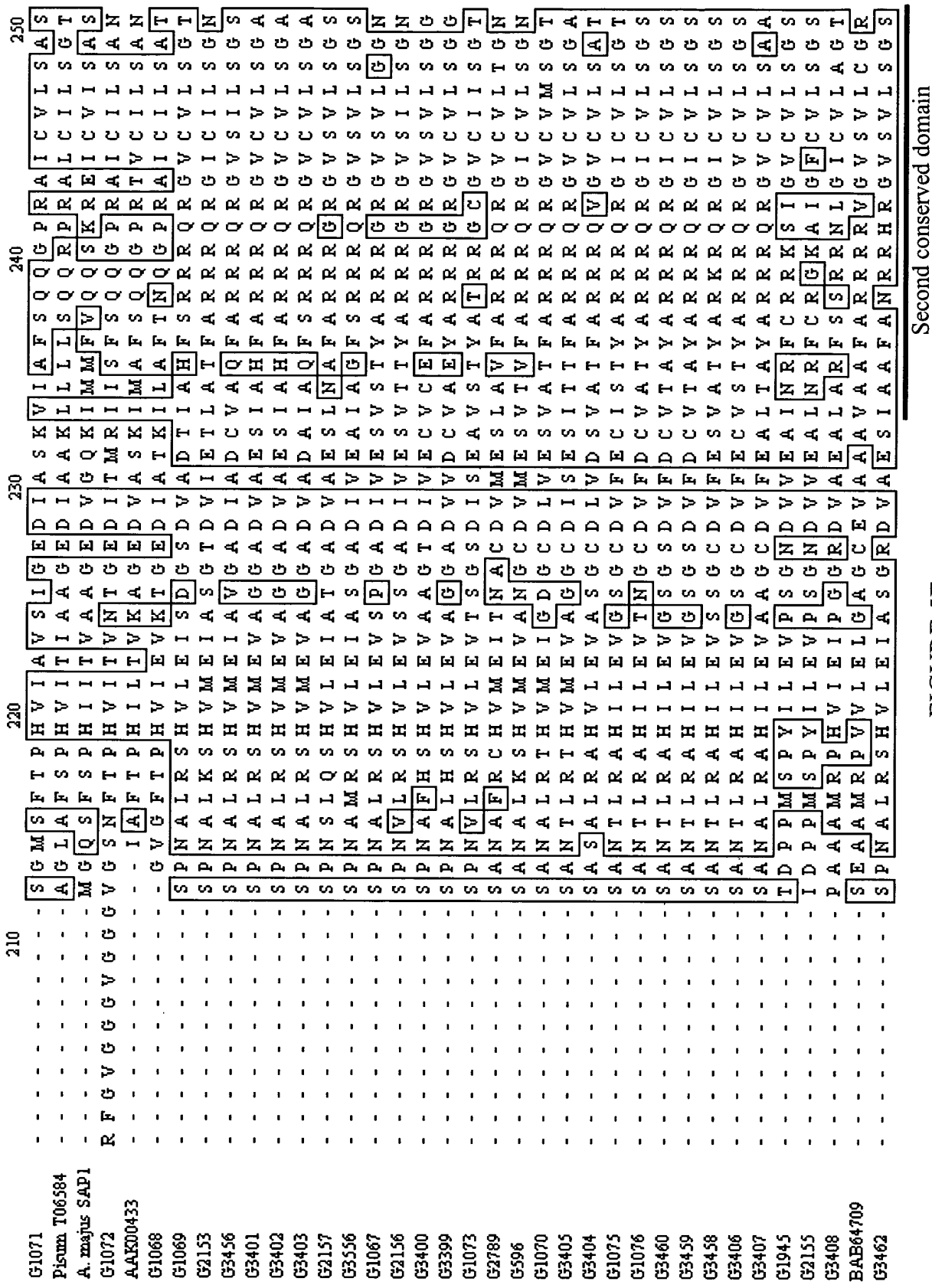
FIGURE 5B

G1071	110	120	130	140	150
Pisum T06584	D P S L A T A A G G A G A L P H H I G V N M I A P P P P S E T P M K R K R G R P R K Y G Q D G S V				
A. majus SAP1	T S S M F S L E P Q S H A D F N H D I S V G A S S G A S S G A P S S E P V K K K R G R P R K Y G P D G S V S				
G1072	- - - - - P A N Q F M G L S L P P M E A P M P S S G E A S G K K R G R P R K - - - - - K Y G T P				
AAK00433	V M G M G E L M R K K R G R P R K Y A P D G S M A L A P I S S A S G A A P P P P P G G N E G G A				
G1068	S M S P H Q P Q Q H Q V H H P Q P Q Q I D Q K T L E S L G F P T S P L P S A S N S Y G G N E G G				
G1069	- - - - - S V S S G H H Q N H H H Q S L L T K G D L G I A M N Q S Q D N L Q D E - - - - - E D D P R				
G2153	S M N M A M D S G H N N H H H Q E V D N N N - - - - - D D D R D N L S G D - - - - - D H E P R				
G3456	- - - - - M K K - P D L G F S M N E S T V T G N H I G - - - - - E E D E D R E N S D - - - - - E P R				
G3401		M A S K E P S G - - - - - D H D H E M N G T S A G - - - - - G E E P K			
G3402		M A S K E P S G D H - - - - - D H D H E L N G T S G - - - - - G E E P K			
G3403	- - S S G P K A E L P V A K E P E A S P T G G A - - - - - A A D H A D E N N E S G - - - - - G E E P R				
G2157	N P P T M T R S D P R L D H D F T T N N S G S P N T Q T Q S Q E E Q N S R D E - - - - - Q P A V E				
G3556		M G S I D G H S L Q Q H Q G V S H G G G A G G S N E E E A S P P - - - - - G G G S A			
G1067	Q H Q Q H Q Q Q P S D D S R - - - - - E S D H S N K D H H Q Q G - - - - - R P D S D				
G2156	Q P Q P Q Q N - - - S D D - - - - - E S D S - N K D - - - - - P G S D				
G3400	E R S M L S P D E S P G A D A D - - - - - L G S D H - P T S S A M V A - - - - - A E D - S				
G3399	E H S K M S P D K S P V G E G D H A G S G S G G V G G D H Q P S S S A M V P - - - - - V E G G S				
G1073		M E L N R S E A D E A K - - - - - A E T T P T G G A T S S - - - - - A T A - -			
G2789	- - - - - - - - - - - E E G V E P N - - - - - N I G E D L A T F P S G - - - - - E E - -				
G596	D Q H R I G L K R D R - - - - - D A D I D P N E H S S A G K D Q S T P G S G - - - - - G E S G G				
G1070	G S G N R Q I K M D R E E T S D N I D N I A N N S G S E G K D I D I H G G S - - - - - G E G G G				
G3405	- - - - - S R G T K R D H D D - - - - - D E N S G N G H G S G G D G G D L A L V P P S - - - - - G G G P D				
G3404	A A A A G G M A K Q E L V D E S N N T I N S G S G S G G E E Q R Q Q S G - - - - - E E Q H Q				
G1075	- - - - - G A G G N H H H - - - - - H H N H N N N H Q G L D L I A S N D N - S G - - - - - L G G G G				
G1076	- - - - - G A G M G H F T V D D E D N N N N H Q G L D L A S G G S G S S - - - - - G G G G G				
G3460	- - - - - H K R D S E E Q E T P P N P G T A L A P F D N D - D D K S - - - - - Q G L E L				
G3459	- - - - - Q H Q R D L E E Q K T P P N - H R M G A P F D D S D D R S - - - - - P G L E L				
G3458	- - - - - L N N H E G L D L V T P N S - - - - - - - - - - - - - - - G -				
G3406	- - - - - S D D D P N G S G G G N S N G P Y G D H D G S S S S G P - - - - - A T D G A				
G3407	- - - - - S D D G G H D D L S P G S - - - - - - - - - - - G G G G P S S - - - - - T A G G A				
G1945	G E Y R E Q K S N E M F S K L P H H Q Q Q Q Q Q Q Q Q Q H S L T S H F H L S S - - - - - T V T P T				
G2155		M L S K L P T Q R - - - - - - - - - - - - - - - H L H L S P - - - - - S S P - -			
G3408	- - - - - Q Q L V E C F S D E V D S R G S G G E - - - - - M K D A V G S G S G Q L V - - - - - V V G G G				
BAB64709			M A D E G S S R A E L I - - - - - E A S P A		
G3462	T R S N S N T N A N T N T N T T E E V S R D N G E D Q N Q N L G S - - - - - H E G S E				

FIGURE 5C









G1071	-	-	S	F	R	N	R	T	G	N	L	S	V	S	L	A	S	P	D	G	R	V	I	G	G	A	I	G	G	P	L	I	A	A	S	P	V	Q	V	I	V	V	I	G	S	F	I	-	W	A	A	P	
Pisum T06584	-	-	-	P	T	N	R	T	G	G	I	S	V	S	L	S	S	R	D	G	H	V	I	G	G	S	V	A	-	M	L	I	A	G	S	P	I	Q	L	V	V	I	V	V	C	S	F	V	-	Y	G	G	G
A. majus SAP1	-	-	-	F	G	R	S	G	L	S	V	S	L	A	G	G	P	D	G	Q	R	I	I	G	G	G	V	A	G	G	P	L	I	A	A	T	I	Q	V	I	V	V	G	T	F	V	-	V	E	T	K		
G1072	-	-	-	S	K	G	R	S	G	M	S	V	S	L	A	G	S	D	G	R	V	V	L	G	C	V	A	G	M	L	L	I	A	A	T	P	I	Q	V	V	V	A	S	F	I	-	T	S	D	Q			
AAK00433	-	-	-	T	R	S	R	T	G	L	S	V	S	L	A	G	H	E	G	R	I	V	V	L	G	C	V	A	G	M	L	L	I	A	A	T	P	Q	V	V	V	A	S	F	I	-	A	E	G	K			
G1068	-	-	-	T	V	T	K	T	G	N	L	S	V	S	L	A	G	V	Q	G	Q	V	V	L	G	C	V	A	G	M	L	L	I	A	A	T	P	Q	V	V	V	I	V	G	S	F	I	-	D	G	R	K	
G1069	-	-	-	S	P	P	G	S	T	G	L	T	V	V	L	A	G	V	Q	G	Q	V	V	L	G	S	V	V	A	G	M	L	L	I	A	A	T	P	Q	V	V	V	I	A	A	T	F	S					
G2153	-	-	-	A	P	P	G	S	T	G	L	T	I	V	L	A	G	G	Q	G	Q	V	V	L	G	E	V	V	A	G	M	L	L	I	A	A	T	P	Q	V	V	V	I	A	A	T	F	S					
G3456	-	-	-	S	P	P	G	A	T	G	L	T	I	V	L	A	G	G	Q	G	Q	V	V	L	G	S	V	V	A	G	M	L	L	I	A	A	T	P	Q	V	V	V	I	A	A	T	F	S					
G3401	-	-	-	A	P	P	G	S	T	G	L	T	V	V	L	A	G	G	Q	G	Q	V	V	L	G	S	V	V	A	G	M	L	L	I	A	A	T	P	Q	V	V	V	I	A	A	T	F	S					
G3402	-	-	-	A	P	P	G	S	T	G	L	T	V	V	L	A	G	G	Q	G	Q	V	V	L	G	S	V	V	A	G	M	L	L	I	A	A	T	P	Q	V	V	V	I	A	A	T	F	S					
G3403	-	-	-	A	P	P	G	S	T	G	L	T	V	V	L	A	G	G	Q	G	Q	V	V	L	G	S	V	V	A	G	M	L	L	I	A	A	T	P	Q	V	V	V	I	A	A	T	F	S					
G2157	-	-	-	S	P	A	A	A	G	L	T	I	V	L	A	G	A	Q	G	Q	V	V	L	G	G	V	A	G	M	L	L	I	A	A	T	P	Q	V	V	V	I	A	A	T	F	C							
G3556	-	-	-	A	P	P	G	A	T	G	L	A	V	V	L	A	G	G	Q	G	Q	V	V	L	G	S	V	M	A	G	M	L	L	I	A	A	T	P	Q	V	V	V	I	A	A	T	F	C					
G1067	-	-	-	A	P	P	G	A	G	L	S	I	F	L	A	G	G	Q	G	Q	V	V	L	G	S	V	V	A	P	L	I	A	S	G	A	P	V	I	L	M	A	A	S	F	S								
G2156	-	-	-	A	P	P	G	S	G	L	S	I	F	L	S	G	G	V	Q	G	Q	V	V	L	G	S	V	V	A	P	L	V	A	S	G	P	V	I	L	M	A	A	S	F	S								
G3400	-	-	-	A	P	P	S	A	S	G	L	T	V	F	L	S	G	G	Q	Q	V	V	L	G	S	V	V	A	P	L	I	A	A	G	P	V	V	L	M	A	A	S	F	A									
G3399	-	-	-	A	P	P	G	A	S	G	L	T	V	F	L	S	G	G	Q	Q	V	V	L	G	S	V	V	A	P	L	V	A	A	G	P	V	V	L	M	A	A	S	F	A									
G1073	-	-	-	A	P	P	G	A	G	L	T	V	V	L	A	G	G	Q	G	Q	V	V	L	G	S	V	V	A	P	L	I	A	S	G	P	V	V	L	M	A	A	S	F	A									
G2789	-	-	-	A	P	P	A	A	S	G	L	T	I	V	L	A	G	G	Q	Q	V	V	L	G	S	V	V	A	P	L	I	A	S	G	P	V	V	I	M	A	A	S	F	G									
G596	-	-	-	A	P	P	A	A	S	G	L	T	I	V	L	A	G	G	Q	Q	V	V	L	G	S	V	V	A	P	L	I	A	S	G	P	V	V	I	M	A	A	S	F	G									
G1070	-	-	-	A	P	P	T	A	T	G	L	S	V	V	L	A	G	G	Q	Q	V	V	L	G	S	V	V	A	P	L	C	A	G	P	V	V	I	M	A	A	S	F	G										
G3405	-	-	-	A	P	P	E	A	T	G	L	T	V	V	L	A	G	G	Q	Q	V	V	L	G	S	V	V	A	P	L	I	A	A	G	P	V	V	I	M	A	A	S	F	A									
G3404	-	-	-	A	P	P	S	A	T	G	L	T	V	V	L	A	G	G	Q	Q	V	V	L	G	S	V	V	A	P	L	I	A	A	G	P	V	V	I	M	A	A	S	F	A									
G1075	-	-	-	A	P	P	G	A	T	G	L	T	V	V	L	A	G	A	Q	G	Q	V	V	L	G	S	V	V	A	P	L	I	A	A	G	P	V	V	I	M	A	A	S	F	G								
G1076	-	-	-	A	P	P	G	A	T	S	L	T	I	F	L	A	G	G	Q	Q	V	V	L	G	S	V	V	A	P	L	M	A	A	G	P	V	V	I	M	A	A	S	F	T									
G3460	-	-	-	A	P	P	G	A	T	S	L	T	I	F	L	A	G	G	Q	Q	V	V	L	G	S	V	V	A	P	L	T	A	A	G	P	V	I	V	I	A	A	S	F	T									
G3459	-	-	-	A	P	P	G	A	T	S	L	T	I	V	L	A	G	G	Q	Q	V	V	L	G	S	V	V	A	P	L	T	A	A	G	P	V	I	V	I	A	A	S	F	T									
G3458	-	-	-	A	P	P	G	A	T	S	L	T	I	V	L	A	G	G	Q	Q	V	V	L	G	S	V	V	A	P	L	T	A	A	G	P	V	I	V	I	A	A	S	F	T									
G3406	-	-	-	A	P	P	G	A	T	S	L	T	I	F	L	A	G	G	Q	Q	V	V	L	G	S	V	V	A	P	L	Y	A	A	G	P	V	I	V	I	A	A	S	F	A									
G3407	-	-	-	A	P	P	G	A	T	S	L	A	F	L	A	G	G	Q	Q	V	V	L	G	S	V	V	A	P	L	I	A	A	G	P	V	V	V	V	A	A	S	F	S										
G1945	L	-	-	S	P	P	V	S	N	F	F	T	V	S	L	A	G	P	Q	Q	I	I	G	G	F	V	A	G	P	L	I	S	A	G	T	V	V	I	A	A	S	F	N										
G2155	L	-	-	S	P	P	V	S	N	F	F	T	V	S	L	A	G	P	Q	Q	I	I	G	G	F	V	A	G	P	L	V	A	A	G	T	V	V	I	A	A	S	F	N										
G3408	A	P	Q	A	V	A	A	A	G	L	S	I	S	L	A	G	P	H	G	Q	I	V	G	G	A	V	A	G	P	L	Y	A	A	T	T	V	V	V	A	A	S	F	N										
BAB64709	A	-	-	A	P	P	P	-	-	F	S	V	S	L	A	G	A	G	G	Q	V	I	G	G	T	L	A	G	P	L	V	A	S	G	P	V	M	V	I	A	A	S	F	N									
G3462	-	-	-	S	P	S	G	A	T	G	L	T	V	V	L	A	G	G	Q	Q	V	V	L	G	S	V	V	A	P	L	V	A	S	G	P	V	M	V	I	A	A	S	F	N									

Second conserved domain

FIGURE 5G

G1071	K I K S K K R E E E	360	A S E V V Q E T D	370	D H H V L D N N N	380	400
Pisum T06584	S K V K T K Q G	-	- M I T N G E S	-	- S E P H N D N L G	-	- S P A S A
A. majus SAP1	K D A N V E A A S	-	- G K S P S P N G G	-	- A S A P G L S F R S P A D S G I Q M	-	- S G I Q M
G1072	Q D H Q K P R K Q R	-	- V E H A P A A V M S	-	- V P P P P S P P P A A S V F S P T	-	- S G S
AAK00433	K S K P V E T R K V E P	-	- M S A P P Q M A T Y V P A P V A S P P S E G T S	-	- G P P S Q G Q H S S E	-	- S G S
G1068	Q K Q S A G R A Q N	-	- T P E P A S A P A N M L S F G G V G P G S P R S Q G Q H S S E	-	- G I H G G G D S P P	-	- R I G S N L
G1069	E R L P M E E E	-	- E - D G G G S R	-	- Q I H G G G D S P P	-	- S S G A G G
G2153	E R L P L E E E A A	-	- E R G G G G S G G V V P G Q L G G G	-	- G G G S P	-	- K N G G P G
G3456	E R L P L E D D	-	- D Q E Q H G G G	-	- G G M M A P P P	-	- L M A G
G3401	E R L P L D Q E	-	- E E E A A A G	-	- G M M A P P P	-	- L M A G
G3402	E R L P L D Q E D	-	- Q E E A A A G	-	- G M M A P P P	-	- L M A G
G3403	E R L P L E E E	-	- E E G S G P P	-	- M P G G A E P	-	- L M A G H
G2157	E R L P I E E E Q	-	- Q E Q P L Q L E D	-	- G K K Q K E E N D D	-	- N E S G N N
G3556	E R L P L D Q E G	-	- E G A V L S G S E	-	- G A A Q M E Q Q	-	- S S
G1067	E R L P I E - E E E	-	- E E G G G G	-	- G G G - G G P P Q M Q	-	- Q A P S A S P P
G2156	E R L P L E - D E G	-	- G E G G E G	-	- G G G G G G	-	- P A T S S S P P
G3400	E R L P L D G E D P E	-	- A E A A A A T P P G D A A Q P T G P P P Q Q Q P P Q Q Q P A A S Q S S E V	-	- G G G G G G	-	- P A T S S S P P
G3399	E R L P L E G E E E	-	- V A A P A A A G E A Q D Q V A Q S A G P P G Q Q P A A S Q S S G V	-	- G G G G G G	-	- P A T S S S P P
G1073	D R L P I E - E E E	-	- T P P P R T T G V Q Q Q P E A S Q S S E V T G S G A Q A C E S	-	- G G G G G G	-	- K
G2789	E R L P L E E E E	-	- T E R E I D G N A	-	- A R A I G T Q T Q	-	- K
G596	E R L P L E E D Q E E Q T A G A V A N N I D G N A	-	- M Q T P V H G G G	-	- T M G G G T Q T Q T Q T Q Q Q Q Q	-	- K
G1070	E R L P L E E D E	-	- L L A A Q G Q A	-	- G G G S L E S P P	-	- M M G Q Q L
G3405	E R L P L E D D E	-	- P P Q H M A	-	- D S A G L L A A G	-	- Q Q A A Q L
G3404	E R L P L E D D E	-	- L Q S G G G	-	- G G Q S S P P P	-	- P P L P
G1075	E R L P L D E H E E H	-	- L Q S G G G	-	- G G G N M Y S E	-	- A T
G1076	E R L P L E E D E Q Q	-	- Q Q L G G G S N	-	- G G G N L F P E	-	- V A
G3460	E R L P L E E D E Q Q	-	- H Q Q L Q I Q S P A T S	-	- S Q G N N N N N	-	- P F
G3459	E R L P L E E D E Q Q Q Q Q Q L Q I Q P P A T S	-	- Q Q Q Q Q L Q I Q P P A T S	-	- S Q G N N N N N	-	- P F
G3458	E R L P L D E D E S M Q M Q Q G G Q S S A G D G S G D	-	- Q Q Q Q Q L Q M Q Q P G G	-	- H G G V S N N	-	- S F
G3406	E R L P L E E E A P P P Q A G L Q M Q Q P G G	-	- G A	-	- D A G G M G A F	-	- P P
G3407	E R L P L E D G D E V V P P A P A G S D Q G G G S	-	- H S A G T G E R	-	- G M P P L G V D	-	- P S
G1945	H R L P A E E E Q K	-	- H S A G T G E R	-	- E G Q S P P V S G G G E S G Q M	-	- P S
G2155	H R L P A T E E E Q	-	- R N S A E G E E	-	- E G Q S P P V S G G G	-	- P S
G3408	H R L P A D D A S V S	-	- V S V S L S G S G	-	- D A D E H R G H Q H K P E	-	- P Q E P R
BAB64709	H R L P A D E D E	-	- A T G S R G G E E	-	- R R H P Q Q Q Q P P Q T V A A T S A V D	-	- P Q E P R
G3462	E R L P L E D D Q G E	-	- E E M Q V Q Q Q Q	-	- Q Q Q Q Q Q Q Q Q	-	- Q Q Q Q S Q

FIGURE 5H



FIGURE 5J

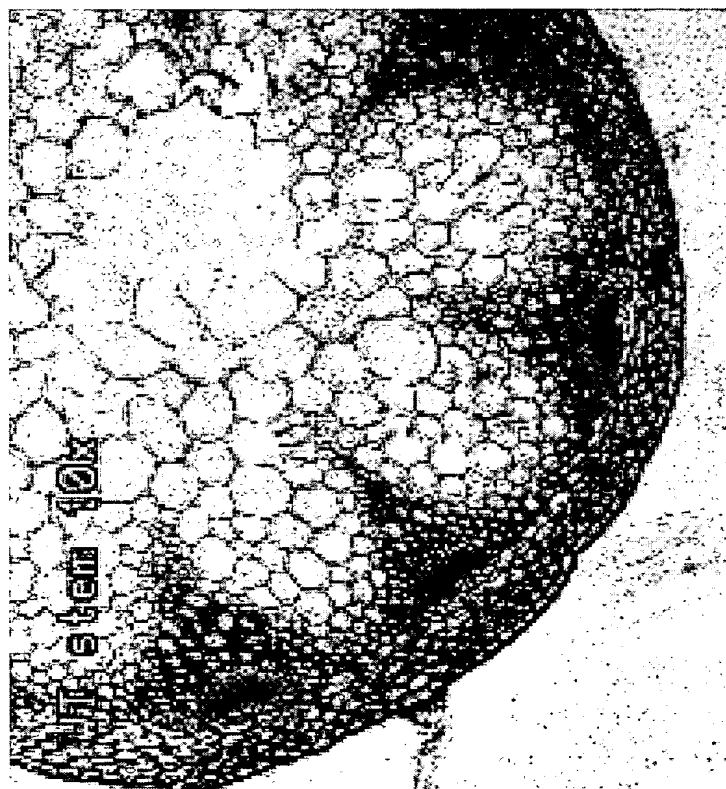


FIGURE 6A

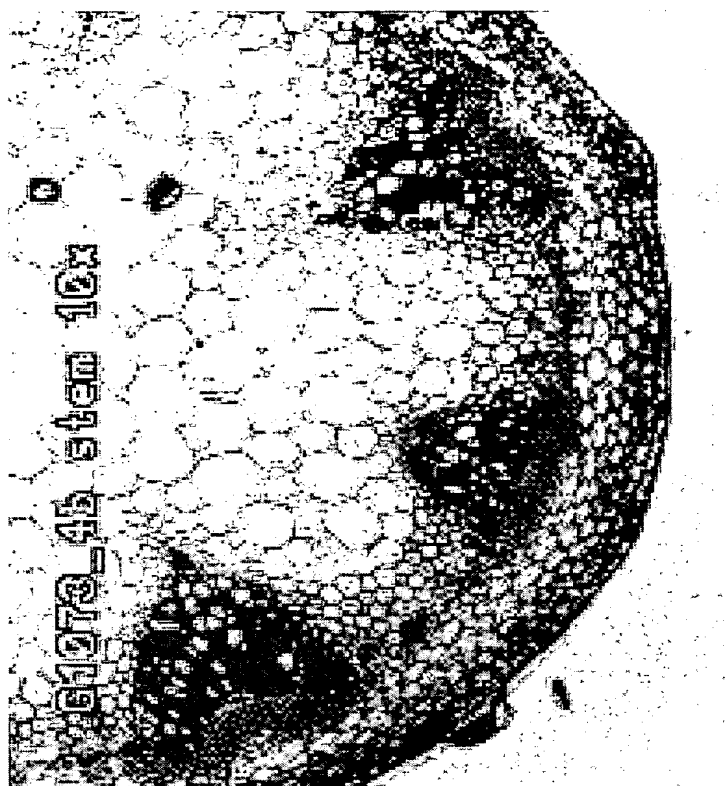


FIGURE 6B

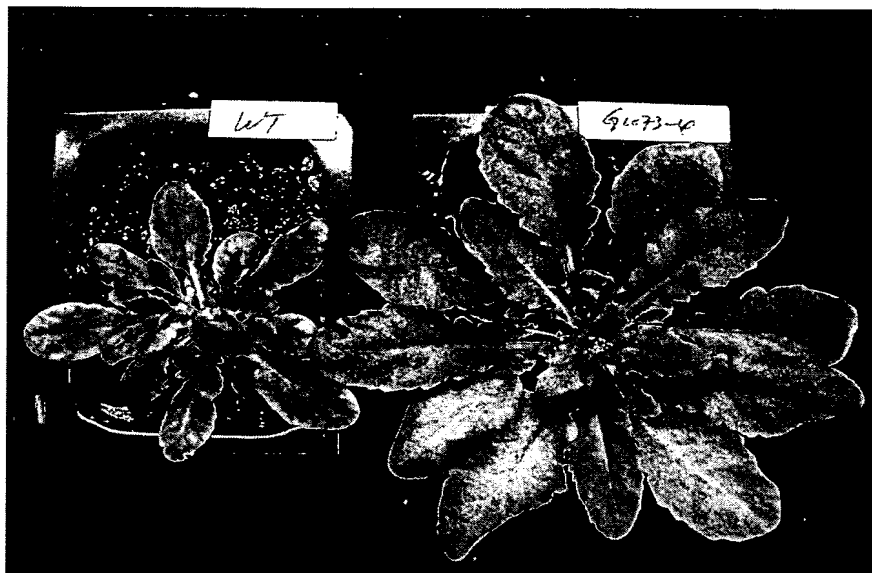


FIGURE 7A

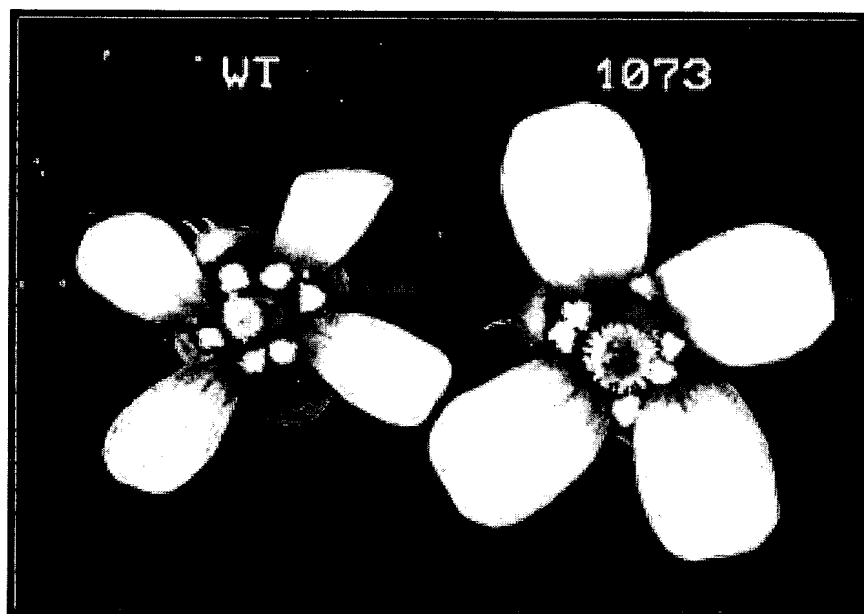


FIGURE 7B





FIGURE 8A



FIGURE 8B

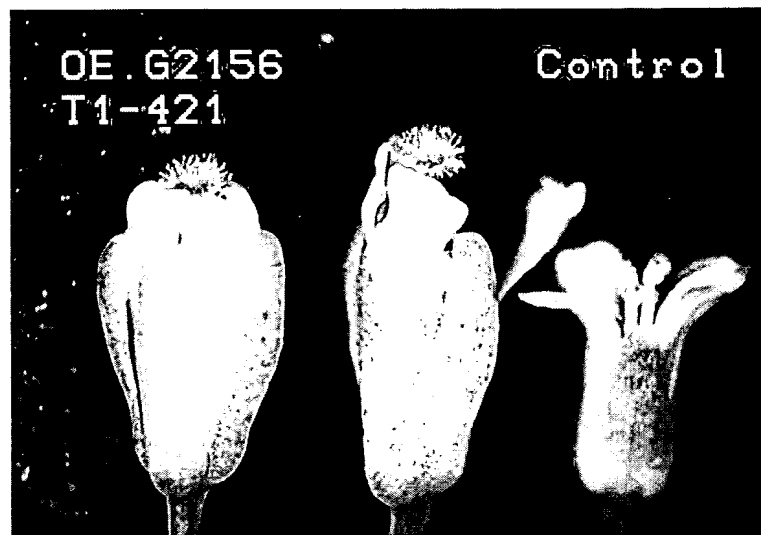


FIGURE 9A



FIGURE 9B

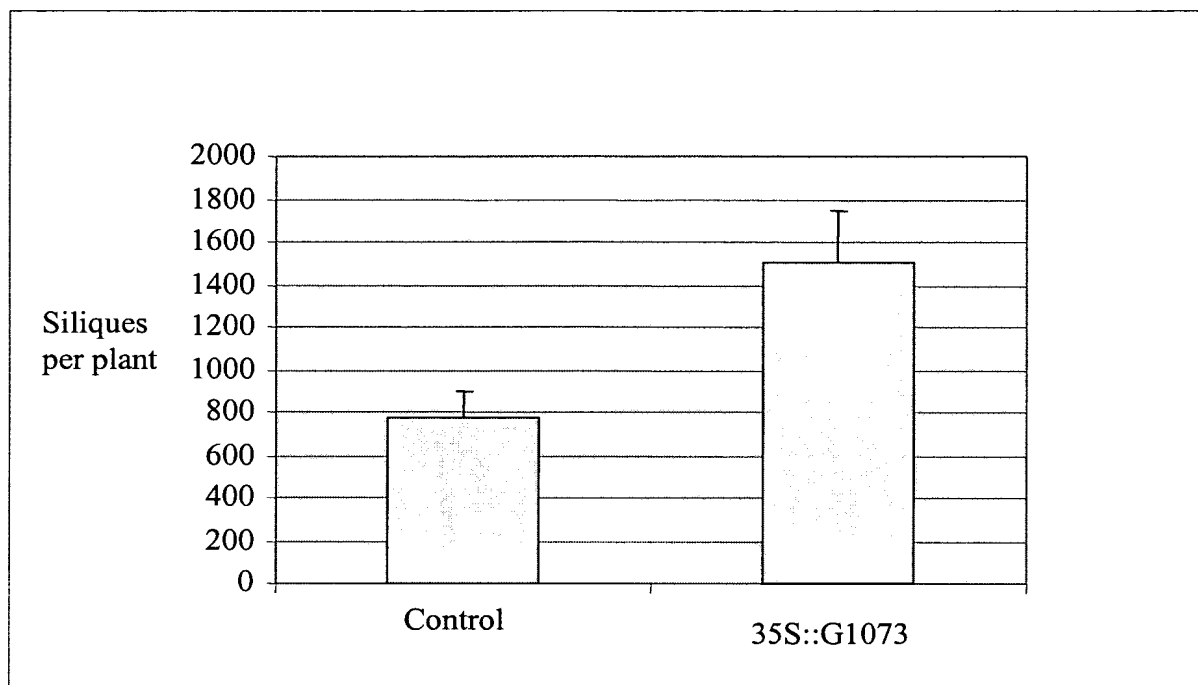


FIGURE 10



FIGURE 11A

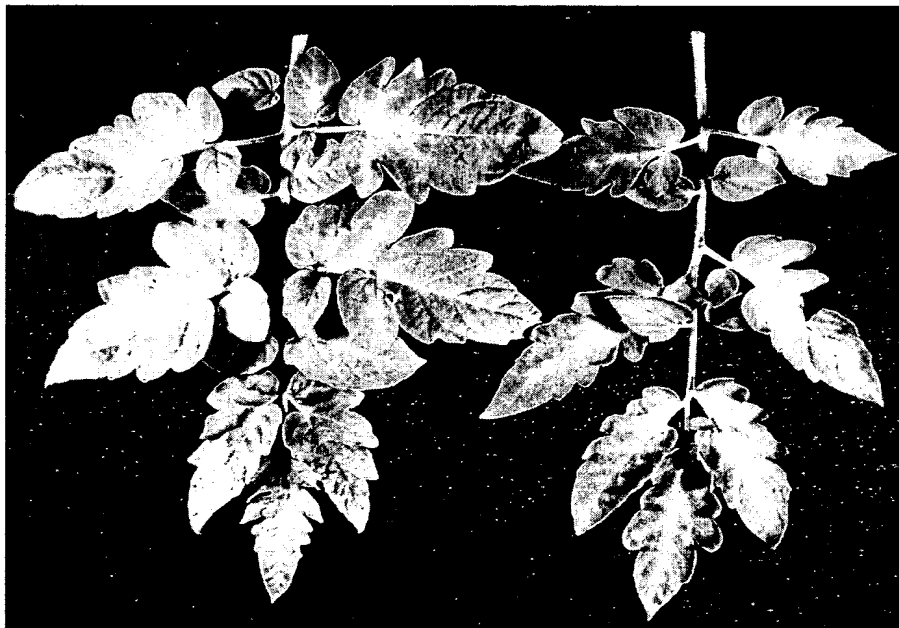


FIGURE 11B



FIGURE 12A

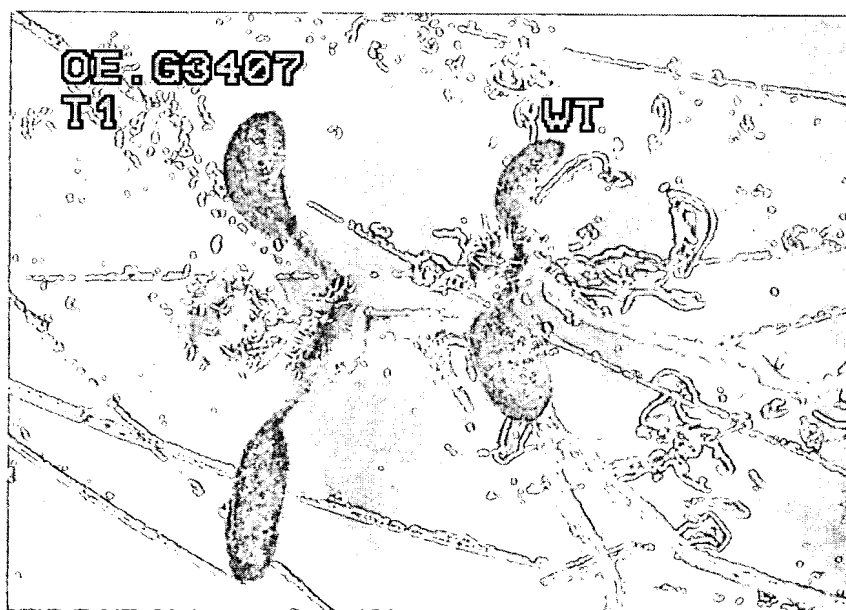


FIGURE 12B



FIGURE 13